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ABSTRACT

The objective of the study was the development and analysis of an instrument which assesses student attitudes toward school, work, self, and others. This objective 115 item instrument was refined into an 80 item Student Attitude Survey which has documented qualities related to administration, processing, reliability, and validity. The revised instrument demonstrated a high degree of internal consistency. The average item to total score correlations for the major scales were .48, .53, .57, and .50. The split-half reliability coefficients were .80, .90, .88, and .79. Two indices of validity were employed: the agreement of staff and student ratings and scale sensitivity to experimental treatment effects. The first index was constrained by a relatively low level of interrater reliability. The second index did provide consistent and supportive results. Of the seven tests performed, six indicated the instrument's ability to identify experimental students who had been exposed to a program designed to affect the variables which the instrument intends to measure. The 1975 and 1976 forms of the survey are included in the document for the purpose of listing item content; for actual administration, the instrument is presented in an optical scanning format. (RC)

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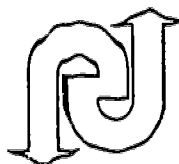
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Development of The Research for Better Schools Student Attitude Survey

**Mark W. Blair
and
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U.S. DEPARTMENT OF HEALTH,
EDUCATION & WELFARE
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DEVELOPMENT OF THE
RESEARCH FOR BETTER SCHOOLS
STUDENT ATTITUDE SURVEY

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DEVELOPMENT OF THE RBS STUDENT ATTITUDE SURVEY

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Since 1972, Research for Better Schools (RBS) has been involved in the development, evaluation, and dissemination of experience-based career education programs. The RBS approach to career education utilizes direct student interaction with career resources in the community, structured group and individual guidance activities, and individualized learning plans. The program elements are designed to be incorporated into the existing school curriculum, where students have available the specialized and continuing courses necessary for a comprehensive educational experience. This approach has demonstrated success in providing secondary students with cognitive skills, career experiences, and personal perspectives which aid in the selection and pursuit of adult life goals (Kershner and Blair, 1975).

Evaluation has constituted one of the major components of RBS' efforts in career education. Implementation and effectiveness issues have been extensively studied at the original pilot site, which has served over 500 students in an urban setting. New sites in a variety of areas are presently providing additional evaluative information.

One of the important evaluation activities has been the determination of program impact on students. Although many areas of impact, such as career exposure and academic skills, have been relatively easy to measure,

other equally important areas have been problematic. One such area is attitudes. Program developers have identified student attitudes toward learning, career knowledge and planning, themselves, and others as being relevant to the intended effects of the program. However, reviews of existing instrumentation using Buros (1972) and Shaw and Wright (1967) indicated that content-appropriate, psychometrically-documented measures were not available. This conclusion led to the instrument development effort which is the subject of the present study.

PURPOSE OF THE STUDY

The overall objective was the development of an instrument to assess student attitudes toward school, work, self, and others. It was desired that the instrument be appropriate for secondary school students and amenable for use in both experimental program and comparison group contexts. It was further specified that the instrument should have favorable qualities in terms of reliability, validity, and ease of administration and processing.

Based on these specifications the Student Attitude Survey was constructed. The instrument included both pre-existing and new items. For school-related attitudes, the "Assessment of Student Attitudes Toward Learning Environments Scale" (Blair and Kershner, 1975) was used. New scales were created to measure attitudes related to career knowledge and planning. The Berger "Acceptance of Self and Others Scales" (Shaw and Wright, 1967) were adapted for use in the final two attitudinal areas. The specific purpose of the study was to assess the qualities of these scales among secondary school students.

PERSPECTIVE ON ATTITUDINAL MEASUREMENT

Attitudinal measurement has been one of the most difficult areas within the field of psychometrics. A major problem which has complicated the study of specific attitudes has been the lack of a consistent definition of the conceptual elements and dimensions related to attitudes. The following attempts at definition represent several major approaches to attitude research:

1. Sherif and Sherif (1956) viewed attitudes as relatively stable, enduring, learned, and having social referents.
2. Osgood, Suci, and Tannenbaum (1957) and Anderson and Fishbein (1965) asserted that attitudes are implicit responses which produce motives; these implicit responses are based on evaluative and affective responses.
3. Krech, Crutchfield, and Ballachey (1962) posited that attitudes vary in quality and intensity on a continuum ranging from positive through neutral to negative, and that different attitudes are related to one another to the extent that they have the same referents.
4. Shaw and Wright (1967) discussed attitudes as relatively enduring systems of covert, implicit affective and evaluative reactions. These reactions are based upon and reflect learned evaluative concepts or beliefs about characteristics of social objects or classes of social objects.

Although there are apparent differences in these approaches, several common attributes are implied. Attitudes are seen as affective responses or reactions to stimuli. They are learned through interaction with the environment and have specific referents in the environment where the learning occurs. Once attitudes have been established, they assume a level of stability and may interrelate based on common referents to form an affective system. The affective behaviors represented by attitudes relate to

cognitive behaviors based on referent commonality. Attitudes exist on a continuum ranging from positive to negative affective or evaluative poles.

This framework of attitudinal attributes served as a conceptual background for development of the Student Attitude Survey. The attitudes of interest were those related to school, career, self, and others. The mechanism for intended changes in attitudes was the environmental alteration caused by introducing a new educational program, in this case an experience-based career education program. The attitudes measured were seen as having systematic elements of relevance to the educational process. Each referent-specific attitude was to be measured on a continuum of positive to negative, reflecting program values, with summary scores representing attitudinal constructs.

The specific measurement technique was selected after reviewing the available approaches. Attitudinal measurement and investigation have traditionally rested on a mathematical model of linearity and unidimensionality (Shaw and Wright, 1967). This mathematical model is reflected in the two most successful techniques for assessment of attitudes, the Thurstone and Likert approaches.

The Thurstone method uses a researcher-built pool of statements which is submitted to a group of objective judges whose purpose is to evaluate each statement in the pool as to the degree of positive or negative attitudes it embodies (Green, 1954). Each item is evaluated on a scale of eleven points ranging from extreme positive to extreme negative. Items are assigned scale values which have assumed equal intervals, and items

representative of the range of attitudes are selected for presentation to the subject groups. Responses consist of agreement or disagreement with the attitude portrayed by each item. Subjects who tend to agree with positive statements are scored as possessing positive attitudes and vice versa.

Likert's (1932) modification of the Thurstone technique has been found to be equally efficient and effective in obtaining similar results to the Thurstone scale (Shaw & Wright, 1967). A pool of items is constructed to consist of statements which depict either decidedly negative or decidedly positive attitudes. Items from the pool are then selected to best represent the desired attitudinal construct, and they are presented directly to the subject group without any judgmental mediation. The response options are usually presented as a five-point scale ranging from Strongly Disagree to Strongly Agree. Weights of one through five points are applied to the responses with five representing the extreme positive, and one the extreme negative. Since the item wording can be either positive or negative, but the weighting procedure always scores agreement as positive, negative items must be transposed before scoring. The total score is the summation of all weights.

The Likert approach was selected for use in the Student Attitude Survey. The Thurstone technique's dependence on objective judges makes it more cumbersome and less conducive to scale revision based on field-test data. The Likert approach also avoids the problems associated with assumptions of equal intervals. Finally, the Likert technique tends to yield more reliable scores (Moll, 1957).

PROCEDURES

The Student Attitude Survey was constructed to measure the following scales and subscales:

1. Student Attitudes Toward Learning Environments (26 items)
 - a. Education in General (7 items)
 - b. School Curriculum (5 items)
 - c. School Resources (9 items)
 - d. School Counseling (5 items)
2. Student Attitudes Related to Careers (25 items)
 - a. Career Knowledge (15 items)
 - b. Career Planning (10 items)
3. Student Acceptance of Self (36 items)
4. Student Acceptance of Others (28 items)

The total number of items was thus 115 distributed among four major scales, two of which also had defined subscales. The items for scale 1 resulted from an earlier developmental effort (Blair and Kershner, 1975). Scale 2 was constructed by the authors explicitly for this instrument. Scales 3 and 4 were taken from the work of Berger (Shaw and Wright, 1967).

The sample available for assessing the qualities of the Student Attitude Survey consisted of 368 participants in the 1974-1975 RBS Career Education Program (Kershner and Blair, 1975). These students formed both first year and second year, experimental and control groups in the program evaluation design. All students were volunteers from a large, urban secondary school. A plurality of the students were eleventh graders, with smaller representations from the ninth, tenth, and twelfth grades. There were fewer males than females and fewer whites than blacks in the samples. The students were deployed in two sets of experimental and control groups, one true experimental and the other quasi-experimental. In all, there

were 259 experimental students and 109 comparison students involved in the program evaluation.

The Student Attitude Survey was included in the instrument package employed with these student groups. A pretest administration was completed in October, 1974, and the posttest was given in May and early June, 1975. Testing was accomplished in a special room within the school under standardized conditions. The pretest administration was intended to provide a field test of the procedures. The posttest administration was intended to provide the data necessary for assessment and revision of the instrument content. Revision of the content during the intertest interval was considered undesirable as it would confound the evaluation design.

The development of the instrument was thus undertaken in two stages. The first stage, instrument assessment, included reliability and validity studies and item analyses on the 115 item form. The second stage, instrument revision, included refinement of the scales based largely on data yielded by the first stage analyses. The procedures utilized in these stages are reported separately below.

Instrument Assessment. The analysis plan was designed to provide estimates of the reliability and validity of the Student Attitude Survey based on the posttest data. Analyses of reliability utilized individual item to subscale and major scale score correlations. In addition, Spearman-Brown split-half reliability coefficients were calculated for each scale and its subscales. Finally, intercorrelation matrices were prepared for subscales to ascertain the extent of discrete functioning within major scales.

The instrument's validity was assessed using two different procedures. First, 50 students were randomly selected from the total sample available. The 10 program staff who had direct contact with the students during the school year were then asked to rate those among the 50 whom they knew well enough on all major scales and subscales of the Student Attitude Survey. The rating form used reflected each of the scales. A total of 111 such ratings were obtained, with multiple ratings on most students. The analysis included estimating the interrater reliability, then determining the degree of directional agreement between staff and student ratings.

A second index of validity concerned the ability of scales to discriminate between experimental and control students. For each major scale and subscale t-tests and analyses of variance were used to determine the predictability of group membership based on attitudinal scores. This indirect approach to validity was used in the absence of established concurrent criterion instruments.

Instrument Revision. Both the test administration experience and the instrument assessment results were intended as input for the instrument revision process. Staff and student reaction and observations were gathered. Several approaches to instrument format and scoring were tried out. These procedures were employed to enhance the administration and processing qualities of the instrument.

Revision at the item level was informed by two sources of information. First, the item analyses conducted for instrument assessment enabled the identification of relatively weak and strong items in terms of

internal consistency. Standards of acceptable correlation magnitudes were set at .40 for an item with its own subscale and .30 for an item with its total scale. The decision rule was to eliminate items falling below these levels. Second, all items were submitted for review by the RBS Institutional Review Board. This group assessed each item with regard to possible harmful effects on individuals who are subjected to the instrument. Based on these sources of information undesirable items were deleted from the scales.

To complete the revision process the reduced scales were analyzed to determine internal consistency. This was done by rescoring the existing posttest records. The scope of the study did not permit further investigation of validity issues.

RESULTS

The results of the study are presented in a form parallel to the Procedures section above. Thus, separate sections on instrument assessment and instrument revision are included.

Instrument Assessment. Tables 1 and 2 present the results of reliability analyses for the Student Attitudes Toward Learning Environments Scale. These results indicated a high degree of internal consistency. The item to subscale correlations ranged from .46 to .71 with an average correlation of .58. The item to total scale correlations ranged from .31 to .58 with an average of .48. For each item the highest correlation coefficient was for that item with its subscale score and the next highest was with the total scale score. Although the subscales demonstrated

Table 1
Student Attitudes Toward Learning Environments
Item, Subscale, and Total Scale Correlations

	Item* Subscale	1	2	3	4	Total
Subscale 1 Education in General	1. 4	.6401	.4759	.3877	.3906	.5841
	2. 15	.5921	.3923	.3674	.4114	.5422
	3. 16	.4739	.2184	.2371	.1665	.3638
	4. 18	.6282	.3754	.3502	.2097	.4950
	5. 19	.6183	.3869	.3446	.3861	.5457
	6. 21	.5963	.3557	.3480	.1799	.4737
	7. 26	.6089	.4664	.4233	.3577	.5774
Subscale 2 School Curriculum	8. 1	.4278	.6042	.2974	.2742	.4818
	9. 7	.2242	.6039	.2769	.2102	.3984
	10. 8	.3811	.6047	.3794	.3040	.5192
	11. 17	.3401	.5390	.2469	.2450	.4220
	12. 20	.4917	.6102	.2945	.2969	.5023
Subscale 3 School Resources	13. 2	.1583	.1107	.4856	.1625	.3091
	14. 3	.2533	.2654	.4698	.1565	.3672
	15. 6	.3113	.3191	.5514	.2775	.4676
	16. 10	.4266	.4470	.5637	.3276	.5596
	17. 11	.2577	.3117	.5906	.2736	.4610
	18. 13	.3541	.2793	.5508	.3041	.4770
	19. 14	.4081	.3729	.5547	.3073	.5150
	20. 22	.2779	.2042	.4585	.2648	.3871
	21. 25	.3710	.2160	.5242	.2421	.4454
Subscale 4 School Counseling	22. 5	.3068	.2869	.3403	.7064	.4929
	23. 9	.2302	.2094	.2894	.5347	.3888
	24. 12	.3543	.3447	.3656	.7092	.5259
	25. 23	.3327	.3130	.3241	.6563	.4877
	26. 24	.4683	.3816	.3464	.6876	.5658

* For item content, see Appendix.

Table 2
Student Attitudes Toward Learning Environments
Subscale Intercorrelations and Reliabilities

Subscales	T	4	3	2
1	.8469	.4852	.5602	.6328
2	.7860	.4512	.5077	
3	.8223	.4806		
4	.7217			

N = 313

Spearman-Brown Split-Half Reliability Coefficients

Subscale 1 = .6337
 Subscale 2 = .5561
 Subscale 3 = .6487
 Subscale 4 = .7372
 Total Scale = .7976

substantial intercorrelation, each subscale was more highly related to the total scale than any other subscale. The split-half coefficients were also acceptable, ranging from .56 to .74 with an overall coefficient of .80. The results generally demonstrated a consistent and clearly organized instrument, impressive given the small number of contributing items.

Tables 3 and 4 present the results of reliability analyses for the Student Attitudes Related to Careers Scale. These results also indicated a high degree of internal consistency. The item to subscale correlations ranged from .17 to .67 with an average of .54. The item to total scale correlations ranged from .11 to .69 with an average of .50. Several weak items were indicated, but overall the results supported internal consistency. For each item the highest correlation coefficient was for that item with its subscale score and the next highest was with the total scale score. The subscales demonstrated a substantial intercorrelation, but each was more highly related to the total scale. The split-half reliability coefficients were relatively high with subscales at .86 and .68 and the total scale .89.

Table 5 presents the results of reliability analyses for the Student Acceptance of Self Scale. Again, a high degree of internal consistency was demonstrated. The item to total scale correlations ranged from .23 to .69 with an average of .51. Two individual items were shown to be relatively weak, but the split-half reliability coefficient of .91 was very satisfactory.

Table 6 presents analogous results for the Student Acceptance of Others Scale. The item to total scale correlation ranged from .05 to .60

Table 3

Student Attitudes Related to Careers Scale
Item, Subscale, and Total Scale Correlations

	Item#	Subscale	1	2	Total
Subscale 1 Career Knowledge	27		.5823	.4520	.5763
	28		.2827	.2389	.2882
	32		.6564	.4348	.6269
	33		.5422	.4045	.5343
	34		.6742	.5618	.6870
	38		.5259	.3866	.5168
	40		.4815	.2328	.4206
	42		.6442	.4821	.6343
	43		.4414	.1479	.3656
	44		.5732	.3433	.5267
	45		.6120	.4519	.5989
	46		.6529	.4009	.6085
Subscale 2 Career Planning	48		.5444	.3060	.4966
	50		.6519	.4585	.6292
	51		.6089	.4311	.5914
	29		.1352	.3286	.2248
	30		.4770	.5932	.5572
	31		.3521	.5704	.4644
	35		.3439	.5534	.4550
	36		.3736	.5827	.4858
	37		.5653	.6214	.6283
	39		.4080	.5755	.5041
	41		.4568	.6094	.5545
	47		.3081	.4263	.3779
	49		.0651	.1739	.1139

* For item content, see Appendix.

Table 4

Student Attitudes Related to Careers Scale
Subscale Intercorrelations and Reliabilities

Subscales	T	2
1	.9581	.6843
2	.8631	

Spearman-Brown Split-Half Reliability Coefficients

Subscale 1 = .8590

Subscale 2 = .6774

Total Scale = .8889

Table 5

Student Acceptance of Self Scale
Item to Total Scale Correlations and Total Scale Reliability

Item	Total Scale Correlation	Item	Total Scale Correlation
52	.3468	70	.5193
53	.2282	71	.3197
54	.4801	72	.5201
55	.5616	73	.6872
56	.5764	74	.4716
57	.6034	75	.2712
58	.2959	76	.4128
59	.4375	77	.6096
60	.3772	78	.3894
61	.6311	79	.6631
62	.6248	80	.6574
63	.5619	81	.3932
64	.5465	82	.6578
65	.6650	83	.4270
66	.4928	84	.4862
67	.5683	85	.5804
68	.6270	86	.4459
69	.6516	87	.5524

Spearman-Brown Split-Half Reliability Coefficient

Total Scale = .9133

Table 6

Student Acceptance of Others Scale
Item to Total Scale Correlations and Total Scale Reliability

Item	Total Scale Correlation	Item	Total Scale Correlation
88	.3946	102	.3448
89	.6020	103	.4976
90	.5857	104	.0462
91	.5868	105	.4969
92	.5737	106	.1146
93	.5227	107	.5566
94	.3354	108	.4637
95	.5311	109	.4106
96	.4479	110	.2858
97	.2033	111	.5799
98	.3499	112	.3275
99	.3722	113	.3456
100	.2195	114	.5616
101	.5136	115	.2664

Spearman-Brown Split-Half Reliability Coefficient

Total Scale = .7843

with an average of .41. With six correlations below .30, this scale was shown to be the weakest employed. However, the split-half reliability of .78 was still in the respectable range.

The next set of analyses was concerned with estimating the validity of the Student Attitude Survey. In the first portion of the validity study program staff rated students from a randomly selected pool on items designed to represent the scales and subscales of the instrument. Since most students were rated by more than one staff member, an analysis of interrater reliability was possible. Correlation coefficients were calculated using the first and second ratings for students who had been rated twice on the same item and the second and third ratings where possible. The results are presented in Table 7. These correlations ranged from .01 to .53 with an average of .35 for the first set and from .19 to .73 with an average of .41 for the second set. These results indicate only a moderate degree of consistency among ratings.

With the limitation of procedures evidenced, extent of agreement on directionality was selected as the estimate of validity. Agreement was defined as the condition where both staff rating and student rating were found on the same side of the scale mean. Non-agreement was defined as the condition where the staff rating and student rating were on opposite sides of the mean. The statistic used was a simple percent agreement. The results of these calculations appear in Table 8. The extent of agreement ranged from 47 percent to 72 percent with an average of 56 percent. Given the restrictive effects of interrater reliability, this level of agreement is relatively strong and lends support to the validity claims.

Table 7

Interrater Reliability for Staff Ratings of Students

Scale \ Rating	1st vs 2nd			2nd vs 3rd		
	n	r	r ²	n	r	r ²
"Learning Environments"						
1. Subscale 1	36	.51	.26	16	.68	.46
2. Subscale 2	36	.53	.29	16	.32	.10
3. Subscale 3	36	.37	.14	16	.21	.04
4. Subscale 4	36	.46	.21	16	.46	.21
5. Total	36	.38	.14	16	.44	.20
"Careers"						
6. Subscale 1	36	.40	.16	16	.32	.10
7. Subscale 2	36	.22	.05	16	.19	.03
8. Total	36	.25	.06	16	.25	.06
9. "Self"	36	.01	.00	16	.47	.23
10. "Others"	36	.32	.10	16	.73	.54

Table 8
Student Scores vs. Staff Ratings
Agreement of Directionality

Scale	Number of Items*	Number of Agreements	Percent Agreement
"Learning Environments"			
1. Subscale 1	46	33	.72
2. Subscale 2	48	24	.50
3. Subscale 3	45	21	.47
4. Subscale 4	48	28	.58
5. Total	43	21	.49
"Careers"			
6. Subscale 1	42	26	.62
7. Subscale 2	48	27	.56
8. Total	47	25	.53
9. "Self"	47	30	.64
10. "Others"	48	25	.52

* The number of items varies because ties with the criterion number were deleted from the sample.

The second procedure used to investigate validity rested on analyses of experimental and control group differences at the time of post-testing. Experimental students had been exposed to the RBS Career Education Program, which is intended to affect variables measured by the Student Attitude Survey. The control students had been engaged in a traditional school curriculum during the treatment period. The groups were randomly constituted; significant pretest differences were not in evidence except as noted. Table 9 presents analyses of posttest differences. Complete data were available for seven of the ten subscales. In all cases but one the experimental mean score exceeded the control mean. In four of the subtests the experimental group exhibited the desired effect at a level of statistical significance. In two of the subtests a pretest significance in favor of the control group was eliminated. For the remaining subtest the mean score difference was not statistically significant. These results indicate that the Student Attitude Survey successfully measures intended experimental effects, thus supporting validity claims.

Instrument Revision. The pretest and posttest experience with the Student Attitude Survey resulted in a number of suggested changes in the instrument. Since manual scoring procedures proved to be cumbersome and conducive to errors, a machine scoring system was devised. This system includes an optical scanning answer sheet and computer software for scoring and computer card production. The automated procedures were field-tested during the posttest and found to be successful. Also, students

Table 9

Posttest Group Discrimination
True Experimental Design

Scale	Experimental \bar{x}	Control \bar{x}	F
"Learning Environments"			
1. Subscale 1	34.57	31.50	11.54**
2. Subscale 2	35.86	35.48	.49***
3. Subscale 3	33.33	31.78	2.99
4. Subscale 4	34.85	30.28	17.56**
5. Total	34.32	31.94	10.17**
"Careers"			
6. Subscale 1	35.96	34.18	5.86*
7. Subscale 2	-----	-----	-----
8. Total	-----	-----	-----
9. "Self"	33.82	34.08	0.02***
10. "Others"	-----	-----	-----

* $p < .05$ when $F(1,175) \geq 3.90$

** $p < .01$ when $F(1,175) \geq 6.79$

*** indicates pretest significant difference in favor of control group
and posttest equity

and staff identified a number of items which they felt were objectionable on the grounds of content or redundancy with other items. These concerns influenced the decision to reduce the length of the instrument and were considered in the deliberation on each item. Finally, the instrument format and instructions were streamlined based on the administration experiences.

The two major sources of information for individual item consideration were the results from instrument assessment procedures and the review by the RBS Institutional Review Board. Items demonstrating relatively low relationships with subscale scores ($r < .40$) or total scale scores ($r < .30$) were considered for deletion. Items identified by the Institutional Review Board as objectionable or undesirable were also considered for deletion. Where these two sources prescribed the same action (retention or deletion), the action was taken. Where the sources disagreed on a specific item, relative benefits were assessed.

The first section of the instrument, "Student Attitudes Toward Learning Environments," was not subject to any recommended changes. All items met the established criteria; no revisions were undertaken.

Six items (28, 40, 43, 29, 47, 49) were deleted from the second section, "Student Attitudes Related to Careers." The retained items were then rescored, and new item to subscale and total scale correlations were performed. These results are presented in Table 10. The item to subscale correlations ranged from .43 to .67 with an average of .57. The item to total scale correlations ranged from .40 to .68 with an average of .53.

Table 10

Student Attitudes Related to Careers Revised Scale
Internal Consistency

	Subscale Correlations		1	2	Total
	Item				
Subscale 1 Career Knowledge	27		.5768	.3927	.5520
	32		.5897	.4075	.5661
	33		.5412	.3407	.5094
	34		.6748	.5470	.6820
	38		.4356	.3191	.4266
	42		.6316	.4668	.6208
	44		.4912	.2903	.4520
	45		.6086	.4022	.5819
	46		.6344	.3822	.5887
	48		.5100	.2840	.4642
	50		.6224	.4476	.6076
	51		.5717	.3685	.5431
Subscale 2 Career Planning	30		.4610	.6542	.5814
	31		.3396	.5318	.4442
	35		.2972	.4803	.3964
	36		.3649	.5706	.4775
	37		.5172	.5804	.5887
	39		.4070	.5758	.5107
	41		.4356	.5747	.5299

Spearman-Brown Split-Half Reliability Coefficients

Subscale 1 = .8603

Subscale 2 = .7000

Total Scale = .8988

The split-half reliabilities were .86 and .70 for the subscales and .90 for the total scale. The revised scale thus met all established criteria.

A larger proportion of items was deleted from the third section, "Student Acceptance of Self." Of the 36 original items, 17 were removed (52, 53, 54, 55, 58, 59, 60, 63, 64, 68, 71, 74, 75, 81, 84, 86, 87). An additional consideration was used in final item selection: it was attempted to retain a reasonable balance of negative and positive items. This concern emerged only in sections three and four because the item pools for those sections were biased toward negative statements. After the indicated deletions, the posttests were rescored, and new item to total scale correlations were performed. The results appear in Table 11. The revised item to total scale correlations ranged from .39 to .70 with an average of .57. The split-half reliability coefficient was .88. The revised scale thus met all established criteria.

A majority of items was deleted from the fourth section, "Student Acceptance of Others." Of the 28 original items, 15 were eliminated (89, 91, 94, 97, 98, 100, 102, 104, 106, 108, 110, 109, 112, 113, 115). The attempt to retain a reasonable number of positive items was again added to the item selection criteria. After the indicated revisions, the tests were rescored and new item to total scale correlations were calculated. The results are presented in Table 12. The item correlations ranged from .28 to .62 with an average of .50. The new split-half reliability was .79. One item (99) was retained despite the low correlation in order to preserve a sample of positive statements. With this exception, section four also met the established criteria.

Table 11

Student Acceptance of Self Revised Scale
Internal Consistency

Item	Total Scale Correlation	Item	Total Scale Correlation
56	.5545	73	.6708
57	.6028	76	.4018
61	.6273	77	.6115
62	.5998	78	.3916
65	.6710	79	.6586
66	.4797	80	.6529
67	.5151	82	.6291
69	.6954	83	.4454
70	.4860	85	.5460
72	.5234		

Spearman-Brown Split-Half Reliability Coefficient

Total Scale = .8750

Table 12
Student Acceptance of Others Revised Scale
Internal Consistency

Item	Total Scale Correlation	Item	Total Scale Correlation
88	.3346	101	.4377
90	.5567	103	.4905
92	.5915	105	.4892
93	.6168	107	.5522
95	.5352	111	.5703
96	.4716	114	.6063
99	.2830		

Spearman-Brown Split-Half Reliability Coefficient

Total Scale = .7915

The revised Student Attitude Survey thus contained the following sections:

1. Student Attitudes Toward Learning Environments (26 items)
 - a. Education in General (7 items)
 - b. School Curriculum (5 items)
 - c. School Resources (9 items)
 - d. School Counseling (5 items)
2. Student Attitudes Related to Careers (19 items)
 - a. Career Knowledge (12 items)
 - b. Career Planning (7 items)
3. Student Acceptance of Self (19 items)
4. Student Acceptance of Others (13 items)

Of the 115 original items, 77 were retained. These final items served as the basis for producing a new instrument form to be available for public distribution. A few editorial changes were made in item wording. Three new field-tested items were added to Subscale 2b. The resultant 80 item instrument was then printed in an optical scanning format. The original computer software was modified to accommodate the revised instrument.

DISCUSSION

The overall objective of this study was the development and analysis of an instrument which assesses student attitudes toward school, work, self, and others. This objective has been successfully met. The original 115 item instrument has been refined into an 80 item Student Attitude Survey which has documented qualities related to administration, processing, reliability, and validity.

The modifications resulting from the study have led to a presentation of the instrument in an easily administered optical scanning format. All instructions, items, and answer spaces appear on one double-sided form.

During the course of the study computer programs also were developed to score the instrument and produce the results on computer cards.

The revised instrument has demonstrated a high degree of internal consistency. The average item to total score correlations for the major scales were .48, .53, .57, and .50. The split-half reliability coefficients were .80, .90, .88, and .79. These results were viewed as strongly supportive of reliability claims for the Student Attitude Survey.

Two indices of validity were employed: the agreement of staff and student ratings and scale sensitivity to experimental treatment effects. The first index was constrained by a relatively low level of interrater reliability. The average level of agreement between instructional staff ratings of students and student self-ratings was 56 percent. This may suggest that staff ratings have limitations as a criterion measure or that the procedures utilized did not sufficiently capture the instrument variables. In any event, further work with this approach to validity estimation would be appropriate. The second index of validity did provide consistent and supportive results. Of the seven tests performed, six indicated the instrument's ability to identify experimental students who had been exposed to a program designed to affect the variables which the instrument intends to measure. Thus, support was also provided for the validity of the Student Attitude Survey.

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APPENDIX

Student Attitude Survey Items

STUDENT ATTITUDE SURVEY

© Research for Better Schools, Inc.

1976 Form*

(Revised Form)

Career Education Program
Research for Better Schools, Inc.
1700 Market Street, Suite 1700
Philadelphia, Pennsylvania 19103

* This document is for the purpose of listing item content. For actual administration, the instrument is presented in an optical scanning format. Instruments, scoring, and analysis services are available from Research for Better Schools.

STUDENT ATTITUDE SURVEY

1. There is a great deal being taught at my school that is useful for me as a person.
2. The teachers at my school do not seem to know enough about what they're teaching.
3. The facilities at my school are old and out-dated.
4. I've learned a lot from my school program.
5. My school counseling program has shown me some interesting things about different careers.
6. My school has a lot of books and equipment that I can use to help myself learn.
7. The experiences I get in my school learning sessions have not really helped me to learn.
8. Most of the courses in school are useful.
9. There are very few people in my school that I can go to when I have a personal problem.
10. I'd say school was really worthwhile.
11. My school does not have very good equipment to help learning.
12. The counseling program at my school has been good for me.
13. I have used many new materials to help me in my school work.
14. My school uses a variety of ways to help us learn - not just a classroom and teacher.
15. Some of the ideas I've gotten in school have helped me get interested in some new area.
16. School has always been boring - I can hardly wait until I'm out.
17. Education, even vocational education, doesn't help with your job when you leave school.
18. My parents are not very excited about the education I am getting.
19. My school program has not been very good.

20. Much of what I learn in school can be used in a job.
21. I like school because I learn a lot of new things there.
22. The people who run my school probably do not enjoy what they're doing.
23. Not much of the advice I have gotten in my school has helped me decide on what I want for my future.
24. My school's counseling program isn't really helping me get ready for things I'll do after I graduate.
25. The teachers I've had in my school have not been very interesting.
26. School is not doing enough to prepare me for the life I'll lead after I graduate.
27. I don't know what is important to me in looking for a job.
28. I know what kind of job I want to get.
29. I keep changing my occupational choice.
30. You should choose an occupation, then plan how to enter it.
31. I know the educational requirements for jobs that I'm interested in.
32. I don't know how to fill out a job application.
33. I don't know what courses I should take in school to prepare for careers that interest me.
34. When you are choosing a job, you should consider what kind of person you are.
35. Once you choose a job, you can't choose another one.
36. I don't know which kind of work I should choose.
37. I know what kinds of jobs I would not like to have.
38. I am not going to worry about choosing a job since you don't have anything to say about it anyway.
39. I'm not going to worry about choosing an occupation until I'm out of school.
40. I don't know whether or not I'll have to go to college to get the job I want.

41. I know what kind of work would fit my personality.
42. I have little or no idea of what working will be like.
43. I don't know how to go about getting into the kind of work I want to do.
44. It takes a lot of planning to prepare for the career you want.
45. I know what kinds of jobs I would be good at.
46. Early planning is important for getting a good job.
47. I don't know what kinds of jobs I would enjoy.
48. I know very little about the requirements of jobs.
49. I don't say much at social affairs because I'm afraid that people would criticize me or laugh if I say the wrong thing.
50. I realize that I'm not living very effectively, but I just don't believe that I've got it in me to use my energies in better ways.
51. I'm afraid for people that I like to find out what I'm really like, for fear they'd be disappointed in me.
52. I am frequently bothered by feelings of inferiority.
53. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
54. I seem to have a real inner strength in handling things. I'm on a pretty solid foundation and it makes me sure of myself.
55. I feel self-conscious when I'm with people who have a superior position to mine in business or at school.
56. Very often I don't try to be friendly with people because I think they won't like me.
57. I feel that I'm a person of worth, on an equal plan with others.
58. I feel that I'm a worthwhile person and there's no reason why other people should dislike me.
59. I sort of only half-believe in myself.
60. I feel confident that I can do something about the problems that may arise in the future.

61. I guess I put on a show to impress people. I know I'm not the person I pretend to be.
62. I do not worry or condemn myself if other people pass judgement against me.
63. I don't feel as "normal" as I would like to.
64. When I'm in a group I usually don't say much for fear of saying the wrong thing.
65. Even when people do think well of me, I feel sort of guilty because I know I must be fooling them - that if I were really to be myself, they wouldn't think well of me.
66. I feel that I'm on the same level as other people and that helps to establish good relations with them.
67. I live too much by other people's standards.
68. I can be comfortable with all kinds of people.
69. I don't believe in spending much time and energy in doing things for other people.
70. I usually ignore the feelings of others when I'm accomplishing some important end.
71. There's no sense in compromising. When people have values I don't like, I just don't care to have much to do with them.
72. I see no objection to stepping on other people's toes a little if it'll help me get what I want in life.
73. I try to get people to do what I want them to do, in one way or another.
74. I feel neither above nor below the people I meet.
75. There are very few times when I compliment people if I don't know them well.
76. I prefer to be alone rather than have close friendships with any of the people around me.
77. I believe that people should get credit for their accomplishments, but I seldom come across work that deserves praise.
78. I feel that for the most part you have to fight your way through life. That means that people who stand in the way will be hurt.

- 79. If people are weak and inefficient, I'm inclined to take advantage of them. I believe you must be strong to achieve your goals.
- 80. I don't see much point in doing things for others unless they can do you some good later on.

STUDENT ATTITUDE SURVEY

© Research for Better Schools, Inc.

1975 Form

Career Education Program
Research for Better Schools, Inc.
1700 Market Street, Suite 1700
Philadelphia, Pennsylvania 19103

STUDENT ATTITUDE SURVEY

INSTRUCTIONS

In developing school programs and planning for the future, it is important to know what students think about various aspects of their life and education. This questionnaire has been designed to give you an opportunity to express your opinions about these issues based on your experiences over the past year.

This is not a test and there are no right or wrong answers. Your honest opinions will be appreciated and helpful in improving the school program. All answers will be kept confidential. Please fill in your name and name grid on the answer sheet. If you have any questions, raise your hand for assistance.

Please read each statement carefully and think about your experiences over the past year in terms of what the statement says. The numbers on the answer sheet correspond to the numbers of the statements. Be sure to fill in the correct space for each question. If you change your mind, erase the mark completely and then fill in your new answer.

For each statement, fill in the number on the answer sheet which shows the extent of your agreement or disagreement with the statement. Each statement can be answered "1", "2", "3", "4", or "5". If you fill in a higher number (4 or 5), it means that you agree with what the statement says. For example, a "5" means that you strongly agree with what the statement says while a "4" means that you just agree with the statement. If you fill in a lower number, it means that you disagree with what the statement says. For example, a "1" means that you strongly disagree with what the statement says while a "2" means that you just disagree with the statement. A "3" means that you're not sure how much you agree or disagree.

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE				
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

1. There is a great deal being taught at my school that is useful for me as a person.
2. The teachers at my school do not seem to know enough about what they're teaching.
3. The facilities at my school are old and out-dated.
4. I've learned a lot from my school program.
5. My school counseling program has shown me some interesting things about different careers.
6. My school has a lot of books and equipment that I can use to help myself learn.
7. The experiences I get in my school learning sessions have not really helped me to learn.
8. Most of the courses in school are useful.
9. There are very few people and places in my school that I can go to when I have a personal problem.
10. I'd say school was really worthwhile.
11. My school does not have very good equipment to help learning.
12. The counseling program at my school has been good for me.
13. I used many new materials to help me in my school work.
14. My school uses a variety of ways to help us learn - not just a classroom and teacher.
15. Some of the ideas I've gotten in school have helped me get interested in some new area.
16. School has always been boring - I can hardly wait until I'm out.
17. Education, even vocational education, doesn't help with your job when you leave school.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

18. My parents are not very excited about the education I am getting.
19. My school program, in general, has not been very good.
20. Much of what I learn in school I can use in a job.
21. I like school because I learn a lot of new things there.
22. The people who run my school probably do not enjoy what they're doing.
23. Not much of the advice I have gotten in my school has helped me decide on what I want for my future.
24. My school's counseling program isn't really helping me get ready for things I'll do after I graduate.
25. The teachers I had in my school were not very interesting.
26. School, in general, is not doing enough to prepare me for the life I'll lead after I graduate.
27. I don't know what is important to me in looking for a job.
28. It's often who you know, not what you know, that's important in getting a job.
29. One reason your job is important is because it determines how much you can earn.
30. I keep changing my occupational choice.
31. You should choose an occupation, then plan how to enter it.
32. I know the educational requirements for jobs that I'm interested in.
33. I don't know how to fill out a job application.
34. I don't know what courses I should take in school to prepare for careers that interest me.
35. When you are choosing a job, you should consider what kind of person you are.
36. Once you choose a job, you can't choose another one.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE				
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

37. I don't know which kind of work I should choose.
38. I know what kinds of jobs I would not like to have.
39. I am not going to worry about choosing a job since you don't have anything to say about it anyway.
40. I know the financial rewards (salary, fringe benefits, etc.) for the jobs I'm interested in.
41. I'm not going to worry about choosing an occupation until I'm out of school.
42. I don't know whether or not I'll have to go to college to get the job I want.
43. I know how to write a resume in applying for a job.
44. I know what kind of work would fit my personality.
45. I have little or no idea of what working will be like.
46. I don't know how to go about getting into the kind of work I want to do.
47. I often think about careers I might want to enter.
48. I know what kinds of jobs I would be good at.
49. The best thing would be to try out several jobs, and then choose one you like.
50. I don't know what kinds of jobs I would enjoy.
51. I know very little about the requirements of jobs.
52. I'd like it if I could find someone who would tell me how to solve my personal problems.
53. I don't question my worth as a person, even if I think others do.
54. When people say nice things about me, I find it difficult to believe they really mean it. I think maybe they're kidding me or just aren't being sincere.
55. If there is any criticism or anyone says anything about me, I just can't take it.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

56. I don't say much at social affairs because I'm afraid that people would criticize me or laugh if I say the wrong thing.
57. I realize that I'm not living very effectively but I just don't believe that I've got it in me to use my energies in better ways.
58. I look on most of the feelings and impulses I have toward people as being quite natural and acceptable.
59. Something inside me just won't let me be satisfied with any job I've done - if it turns out well, I get a very smug feeling that this is beneath me, I shouldn't be satisfied with this, this isn't a fair test.
60. I feel different from other people. I'd like to have the feeling of security that comes from knowing I'm not too different from others.
61. I'm afraid for people that I like to find out what I'm really like, for fear they'd be disappointed in me.
62. I am frequently bothered by feelings of inferiority.
63. Because of other people, I haven't been able to achieve as much as I should have.
64. I am quite shy and self-conscious in social situations.
65. In order to get along and be liked, I tend to be what people expect me to be rather than anything else.
66. I seem to have a real inner strength in handling things. I'm on a pretty solid foundation and it makes me pretty sure of myself.
67. I feel self-conscious when I'm with people who have a superior position to mine in business or at school.
68. I think I'm neurotic or something.
69. Very often I don't try to be friendly with people because I think they won't like me.
70. I feel that I'm a person of worth, on an equal plane with others.
71. I can't avoid feeling guilty about the way I feel toward certain people in my life.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE				
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

72. I'm not afraid of meeting new people. I feel that I'm a worthwhile person and there's no reason why they should dislike me.
73. I sort of only half-believe in myself.
74. I'm very sensitive. People say things and I have a tendency to think they're criticizing me or insulting me in some way and later when I think of it, they may not have meant anything like that at all.
75. I think I have certain abilities and other people say so too, but I wonder if I'm not giving them an importance way beyond what they deserve.
76. I feel confident that I can do something about the problems that may arise in the future.
77. I guess I put on a show to impress people. I know I'm not the person I pretend to be.
78. I do not worry or condemn myself if other people pass judgment against me.
79. I don't feel very normal, but I want to feel normal.
80. When I'm in a group I usually don't say much for fear of saying the wrong thing.
81. I have a tendency to sidestep my problems.
82. Even when people do think well of me, I feel sort of guilty because I know I must be fooling them - that if I were really to be myself, they wouldn't think well of me.
83. I feel that I'm on the same level as other people and that helps to establish good relations with them.
84. I feel that people are apt to react differently to me than they would normally react to other people.
85. I live too much by other people's standards.
86. When I have to address a group, I get self-conscious and have difficulty saying things well.
87. If I didn't always have such hard luck, I'd accomplish much more than I have.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE

Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

88. I can be comfortable with all varieties of people - from the highest to the lowest.
89. I can become so absorbed in the work I'm doing that it doesn't bother me not to have any intimate friends.
90. I don't approve of spending time and energy in doing things for other people. I believe in looking to my family and myself more and letting others shift for themselves.
91. I don't approve of doing favors for people. If you're too agreeable they'll take advantage of you.
92. I usually ignore the feelings of others when I'm accomplishing some important end.
93. There's no sense in compromising. When people have values I don't like, I just don't care to have much to do with them.
94. The person you marry may not be perfect, but I believe in trying to get him (or her) to change along desirable lines.
95. I see no objection to stepping on other people's toes a little if it'll help me get what I want in life.
96. I try to get people to do what I want them to do, in one way or another.
97. I often tell people what they should do when they're having trouble in making a decision.
98. I enjoy myself most when I'm alone, away from other people.
99. I feel neither above or below the people I meet.
100. Sometimes people misunderstand me when I try to keep them from making mistakes that could have an important effect on their lives.
101. There are very few times when I compliment people if I don't know them well.
102. I enjoy doing little favors for people even if I don't know them well.
103. I prefer to be alone rather than have close friendships with any of the people around me.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

USE THIS SCALE FOR ALL STATEMENTS ON THIS PAGE				
Strongly Disagree	Disagree	Not Sure	Agree	Strongly Agree
1	2	3	4	5

104. I seldom worry about other people. I'm really self-centered.
105. I believe that people should get credit for their accomplishments, but I seldom come across work that deserves praise.
106. When someone asks for advice about some personal problem, I'm most likely to say, "It's up to you to decide," rather than tell him what he should do.
107. I feel that for the most part one has to fight his way through life. That means that people who stand in the way will be hurt.
108. I can't help feeling superior (or inferior) to most of the people I know.
109. I don't hesitate to urge people to live by the same high set of values which I have for myself.
110. I can be friendly with people who do things which I consider wrong.
111. If people are weak and inefficient I'm inclined to take advantage of them. I believe you must be strong to achieve your goals.
112. I'm easily irritated by people who argue with me.
113. When I'm dealing with younger persons, I expect them to do what I tell them.
114. I don't see much point to doing things for others unless they can do you some good later on.
115. If someone I know is having difficulty in working things out for himself, I like to tell him what to do.

PLEASE ANSWER ALL STATEMENTS ON ANSWER SHEET

